

BEACH CONSERVATION



By Joe Marchisio

Joe Marchisio and his wife live on Gurnet Rd. overlooking the beach protected great marsh; they have a 5-month-old son. A decorated Vietnam paratrooper, Joe is a straight A geology major at Bridgewater State.

Duxbury Beach is an extremely narrow and delicate land form composed mainly of elastic particles called sand. Except for the Gurnet, Saquish head, parts of high pines and the plum hills there is no topsoil for plant succession.

During the summer the long shore currents which carry the sands that fill in between the glacial deposits at Gurnet and Saquish are of a low intensity allowing the sand to be deposited along the ocean beaches. During the winter, the stormy season, rip currents and long shore currents are often violent; picking up the sand sized particles and sometimes pebble sized particles and carrying them farther south to where the current velocities decrease.

The conservation effort should be mainly directed against the erosive power of winter weather. Anyone who has visited the sandy beach areas during the winter has found boulders and small glacial sized particles instead.

It has taken 12 to 30 thousand years for the beach to build itself to its present stage. With the advent of recreational use serious conservation efforts are necessary to combat a relatively new geologic agent - man.

Most people using the beach are aware of their responsibility to protect it for future use, but one vehicle and one irresponsible individual can destroy a thousand years of nature's work.

Without heavy uncontrolled use our present conservation efforts can help dune building, necessary for beach grass to grow, and help abate erosion by wash overs during winter storms. The beach can be breached easily if we have spring tides such as we had during the first week in August and heavy weather approaches from the northeast at a good distance out. The wash

overs that would definitely ensue such a situation will not seriously erode dune areas with healthy vegetation rooted within it.

Without vegetation the high energy waves could wash out thousands of years of sediment during a brief 24-hour period.

Many of the people, like myself, who live on Duxbury Beach, know the dangers of an extremely high tide. During a high tide I cannot get into my driveway. If the beach became breached and the violent wave action passed into the bay more damage would be assessed to those who live on the bay.

The only way we can effectively prepare for such a situation is to continually build up and protect existing dune areas and plant beach grass wherever possible. The townspeople do take us seriously when we ask them to leave vegetated areas.

In the long run; for conservation is really for the future more than the present, it is up to each member of the community to realize the wealth and beauty we have in our beach. It is one of the most spectacular beaches in the U.S. Hundreds of theses and papers have been written about this beach. Many people owe their masters and doctorate degrees to our beach as subject material. The very least we can do is respect its delicate and changing nature and assist the conservation effort by using it thoughtfully and keeping it in its present state for future generations.